

1           This invention relates to articles formed from a web of thermoplastic material, and more particularly to thin-walled seamless containers of the expendable variety.

In recent years, thin-walled plastic containers have been produced which overcome, to a great extent, many of the disadvantages inherent in paper cups. One of the areas of difficulty, however, is the insulation ability of plastic containers. Foamed polystyrene cups have been one solution to this problem, but the relatively thick walls of these containers generally do not permit dispensing from a vending machine, and increase the unit cost of the containers. Another solution has been the provision of gripping rings on a thin-walled plastic container which relieves, to a fairly acceptable level, most of the discomfort in holding a container full of a hot beverage.



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1 stacking and vending features can be incorporated in such a con-  
tainer which is desirable from the total standpoint. The present  
invention is an improvement over containers of this type, and  
more specifically, is an improvement over the double walled  
5 nestable plastic container disclosed and claimed in my prior  
U. S. Patent 3,079,027 dated Feb. 26, 1963.

One object of the present invention is to provide a  
plastic container which may be readily grasped by a user without  
discomfort when filled with hot beverages and the like.

10 Another object of the present invention is the provi-  
sion of a novel and unique plastic container, which in addition  
to protecting the user, prevents injury to table and other  
supporting surfaces from heat transfer and vapor transmission.

Still a further object of the present invention is to  
15 provide a novel container of seamless construction which is  
strong per unit weight, and which will withstand the user's  
grasp without deflection of the container side walls to any great  
extent.

Still another object of the present invention is the  
20 provision of a unitary plastic container which is unaffected by  
humidity, and will readily permit of telescopic association and  
withdrawal of a plurality of like containers for use in packaging  
and dispensing the containers.

It is a further object of the present invention to  
25 provide a container formed from an inner and outer receptacle,  
and is so constructed that a plurality of like container units  
as well as both the inner and outer receptacles may be stacked  
in non-jamming nested relationship to facilitate the handling  
of the containers and its constituent receptacles during manu-  
30 facture, shipping and use.

A still further object of the instant invention is the  
provision of a disposable double walled container wherein each

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- 1 of the component parts can be economically molded under mass  
manufacturing techniques, quickly and easily assembled to one  
another, and then used for a variety of hot and cold products  
without discomfort to the user, injury to supporting surfaces,  
5 or weakening of the container construction itself.

Other objects and advantages of the present invention  
will become apparent from the following description when taken  
in connection with the accompanying drawings wherein:

FIG. 1 is a perspective view of a double walled con-  
10 tainer constructed in accordance with the principles of the  
present invention;

FIG. 2 is an enlarged fragmentary sectional view of  
a pair of completely formed double walled containers telescop-  
ically assembled to one another;

15 FIG. 3 is an enlarged fragmentary sectional view of the  
insulating and/or gripping area of the double walled container;

FIGS. 4-5 are enlarged fragmentary sectional views  
of a lower section of the container, and showing alternate  
constructions thereof;

20 FIG. 6 is an enlarged fragmentary sectional view of a  
plurality of stacked receptacles forming the outer unit of the  
container shown in FIGS. 1-2; and

FIG. 7 is an enlarged fragmentary sectional view of a  
plurality of stacked receptacles forming the inner unit of the  
25 container illustrated in FIGS. 1-2.

Referring now in greater detail to the drawings, and  
in particular to FIG. 1, there is shown a double walled container  
10 of frusto-conical configuration which is preferably made of  
high impact polystyrene. A gripping and insulating area 12 is  
30 formed in the side wall of the container, the latter tapering  
upwardly and outwardly to a rolled rim portion 14 to provide a  
substantially open top for the container.

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1           The double walled container 10 comprises a pair of  
interfitting receptacles designated 20, 40 respectively which  
are joined together by curling the reversely curving rim portion  
of each receptacle as will become apparent. In its preferred  
5 form, the receptacles of the container 10 are of the thin-walled  
variety each on the order of 0.01 inch in thickness; however,  
it is to be understood that one of the receptacles may be thicker  
than the other if desired.

          The outer cup member 20 has a bottom wall 22 which is  
10 axially concave upwards so as to form a false bottom. Substan-  
tially horizontally extending portions 24-26 of the bottom wall  
22 are integrally joined at one end by the inclined portion 28  
so as to form the desired false bottom configuration. Extending  
upwardly from the bottom wall 22 and circumferentially joined to  
15 the other end of portion 26 is a lower body section 30. Spaced  
from this lower body section 30 by the gripping and insulating  
area 12 is an upper body section 32 which also tapers upwardly  
and outwardly with respect to the bottom wall 22 of the container  
and terminates in a reversely curving rim portion 34 as best  
20 seen in FIG. 6 of the drawings.

          The inner receptacle 40 is generally similar in form  
to the outer receptacle 20, and is telescopically disposed there-  
within. The bottom or base end wall 42 of the receptacle 40  
also is provided with a false bottom as the result of the spaced  
25 parallel portions 44, 46 being integrally joined to the inclined  
portion 48. Lower and upper body sections 50, 52 of the inner  
receptacle taper upwardly and outwardly with respect to the  
bottom wall 42, and are spaced from one another in the same  
manner as the outer receptacle 20.

30           The insulating and gripping area of inner receptacle 40  
incorporates a plurality of exteriorly disposed peripheral pro-  
jections, in the form of cylindrical rings 56, which are axially

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1 spaced and radially offset from one another by the radially  
directed connecting portions 58 to provide a series of L-shaped  
segments or stepped portions. The projections and shoulders 56,  
58 of the inner receptacle cooperate with the projections and  
5 connecting portions 36, 38 respectively of the outer receptacle  
to provide the insulating and gripping area 12 for the container  
10 as will subsequently appear. It is to be noted that the  
lower body section 50 has an inwardly directed shoulder 51 which  
is used for stacking an adjacently positioned container. The  
10 innermost portion of shoulder 51 is connected to the tapered  
wall 49, the latter being joined at its other end to bottom wall  
portion 46. As best seen in FIG. 2, tapered wall 49 is spaced  
from lower body section 30 of the outer receptacle when the  
receptacles are assembled to one another.

15 The inwardly directed shoulder 51 of the inner recep-  
tacle 40 of each container has a smaller diameter than the lower-  
most portion of the lower body section 30 of the outer receptacle  
20 20 in the vicinity of its bottom wall as will be apparent. This  
arrangement facilitates stacking of a plurality of containers  
10 one within the other permitting the inwardly directed shoulder  
51 of the inner receptacle on any particular container to support  
the bottom wall of the outer receptacle on a similarly constructed  
container as best seen in FIG. 2 of the drawings. Thus, a  
plurality of containers 10 can be stacked in nested non-jamming  
25 relationship, and can easily be separated from one another for  
dispensing purposes.

The assembly of the receptacles 20, 40 to form the  
double walled container 10 is accomplished by a relative tele-  
scopic movement of the receptacles so that the reversely curving  
30 rim portions 34, 54 of the outer and inner receptacles respec-  
tively, come into contact with one another. This engagement of  
the rim portions is due to the relative axial dimensions of the

1 receptacles, the inner receptacle having a smaller axial height than the outer receptacle. When the rim portions 34, 54 engage one another, the bottom walls 22, 42 of the receptacles will thus be spaced a predetermined distance from one another. In addition, 5 since the tapered wall 49 of the inner receptacle is spaced from the lower body section 30 of the outer receptacle, it will be apparent that an insulating area will be provided in the vicinity of the bottom of the container 10. It has been found that the double wall thickness of the container in the vicinity of its 10 bottom, together with the air space therebetween, provides sufficient insulating qualities so that a user may readily grasp the container without discomfort, and for permitting the container to be rested on a supporting surface without any concern over injury of the same.

15 In order to maintain the bottom walls as well as the lower side wall portions of the receptacle in spaced relationship, it is preferable to curl the rim portions outwardly and back upon themselves. This particular operation is known as a rim rolling technique, and may be accomplished by the techniques 20 set forth in my prior U.S. Patent 3,096,546 dated July 9, 1963.

In assembling the inner and outer receptacles to form a container, the stepped portions of each receptacle will overlap and mate with one another to form a strong, rigid construction and prevent bowing of the container side wall. This overlapping 25 and interlocking relationship of the stepped portions on a pair of cooperating inner and outer receptacles also serves as a gripping and insulating area 12 for each container 10. An inspection of FIG. 3 will reveal that the cylindrical rings or projections 36 on the outer receptacle generally coincides with 30 the cylindrical rings or projections 56 on the inner receptacle, but are slightly axially offset so as to position the generally radially directed connecting portions 38, 58 in non-aligned

1 relationship. The cylindrical rings and the radially directed  
connecting portions of each receptacle are so positioned as to  
permit a portion of the outer peripheral surface of each cylin-  
drical ring 56 to engage a portion of the inner peripheral sur-  
5 face of a cylindrical ring 36. This arrangement structurally  
reinforces the side wall of each container 10 as discussed above,  
permitting the stepped portions of the inner receptacle to lend  
requisite strength and support to the stepped portions of the  
outer receptacle.

10           The radially directed connecting portions 38, 58 of  
the outer and inner receptacles respectively are shown in FIG. 3  
as being axially offset from one another by an amount substan-  
tially equal to each receptacle wall thickness. However, it will  
be understood that to structurally reinforce and rigidify the  
15 side wall of each container 10, it is only necessary that the  
radially inwardly directed connecting portions 58 on the inner  
receptacle have at least a portion thereof below the top surface  
of the radially directed connecting portions 38 on the outer  
receptacle so that a portion of the outer peripheral surface of  
20 each projection 56 overlaps, and preferably engages, a portion of  
the inner peripheral surface of each projection 36. Thus, it is  
possible to have at least part of the cooperating portions 38 on  
the outer receptacle spaced lower than the cooperating portions  
58 on the inner receptacle.

25           In addition to rigidifying and strengthening the side  
wall of each container 10, the overlapping and mating engagement  
of the stepped portions on the inner and outer receptacles of  
each container will provide an insulation effect. As will be  
apparent, the overlap of at least a portion of the projections  
30 36, 56 will provide spaced pockets 16 for trapping and maintaining  
air therein. In previously constructed double walled containers,  
even if the side walls of the receptacles were spaced from one

1 another initially, they would have a tendency to be forced in  
engagement with one another when gripped by a user, and thus  
force air above and below the gripped area. The result of this  
would be that the user would be protected from the container  
5 only by the wall thickness of the receptacles. In the double  
walled container 10 of the present invention, this has been elim-  
inated. When a user grasps the insulating and gripping area 12  
of a container 10, the beverage within the container will be  
spaced from the user's fingers by an amount at least equal to  
10 the wall thickness of each receptacle, together with the length  
of the radially directed cooperating portion 38 on the outer  
receptacle. As will be appreciated, the height of the cylindri-  
cal rings will vary somewhat in accordance with the size of the  
fingers of the user, it only being important to note that this  
15 height should be such as to prevent finger entrance in the area  
of juncture between the cylindrical rings 36 and cooperating  
portions 38. It will also be appreciated that the spacing be-  
tween the beverage within the container and the user's fingers  
will vary somewhat in accordance with the wall thickness of the  
20 receptacles, the configuration and inclination of the projections,  
and the length of the cooperating portions 38. Thus, for ex-  
ample, it would be possible to provide outwardly bowed projec-  
tions 36 which would space the user's fingers a greater distance  
from the beverage within the container than that shown in the  
25 drawings.

Another embodiment of the container is shown in FIG. 4  
and is designated 10a. In describing this container, identical  
reference numerals will be employed as in the above embodiments  
with the application of the suffix "a" to identify like parts.  
30 The essential difference of this embodiment is that the outer  
receptacle 20a is provided with a radially inwardly directed  
abutment 31 in its lower body section 30a which underlies and



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1 supports the inwardly directed shoulder 51a of the inner receptacle 40a. The effect of this is that the inner receptacle 40a will be supported by the outer receptacle at two discrete points. One will be where shoulder 31 underlies and engages the shoulder 5 51a of the inner receptacle, and the other will be where the reversely curving rim 54 is engaged by the reversely curving rim portion 34 of the outer receptacle. Thus, in the case of improperly rolling the reversely curving rim portions of each receptacle back upon one another, the bottom walls of each 10 receptacle and the lower side walls in the vicinity thereof will still be maintained in spaced relationship. It is to be noted that wall portion 29 of the outer receptacle adjacent the bottom wall thereof is also spaced from the tapered wall 49a of the inner receptacle so as to space the lower side wall portions of 15 each receptacle from one another.

The embodiment shown in FIG. 5 is generally similar to those previously described as indicated by the application of identical reference numerals with the suffix "b" employed to designate like parts. This embodiment is generally similar to 20 the FIG. 2 form except that the inclined portion 28b of the outer receptacle bottom wall 22b is inclined upwardly by an amount sufficient to cause engagement with the inclined portion 48b of the inner receptacle bottom wall 42b. Thus, the inner receptacle, instead of being supported by an inwardly directed 25 shoulder as in the FIG. 4 embodiment, will be supported by a portion of the outer receptacle bottom wall. It is to be observed, however, that wall portion 26b of the outer receptacle will nevertheless be spaced from wall portion 46b of the inner receptacle.

30 The insulation effect for the lower portion of each container 10 will be best when the bottom walls of the inner and outer receptacles and side wall portions in the vicinity

1 thereof are spaced from one another, but where it is necessary  
to support the inner receptacle by the outer receptacle as  
shown in FIG. 5, it is still possible to maintain a large pro-  
portion of the spaced insulation effect.

5 In the preceeding discussion, it has been explained  
that containers formed of inner and outer receptacles can be  
constructed so as to provide telescopic non-jamming nesting of  
a plurality of similarly configured containers. It is also  
preferable for handling, rim rolling operations, etc. that  
10 receptacles of the same configuration be constructed so as to  
permit telescopic non-jamming association. In accordance with  
the teachings of the present invention, a plurality of outer  
receptacles 20 are shown in FIG. 6 as being telescopically re-  
ceived one within the other, and in FIG. 7, a plurality of inner  
15 receptacles 40 are similarly positioned. Thus, the inner and  
outer receptacles of the present invention can be associated  
with similarly configured receptacles, inner and outer recep-  
tacles can be associated with one another, and the inner recep-  
tacle of each container can support the bottom receptacle of a  
20 similarly configured container positioned therein. In stacking  
receptacles, it will be apparent that the radially directed  
cooperating portions of one receptacle will engage the radially  
directed cooperating portions of another receptacle to limit  
the extent of telescopic association therebetween as is shown  
25 in FIGS. 6-7.

From the foregoing, it will now be appreciated that  
the double walled container of the present invention has high  
insulating characteristics, is extremely rigid in its construc-  
tion, and will permit telescopic non-jamming nesting of a  
30 plurality of containers, inner receptacles, and outer recepta-  
cles, as well as telescopic assembly of an inner receptacle

- 1 within an outer receptacle to form a double walled container unit. It will also be appreciated that the particular structural features of the insulating area as shown herein may be varied to increase the insulation ability of the containers, and the
- 5 stacking area modified to provide a resilient stack of cups, such as by providing a reverse tapered stacking ring in the inner receptacles.

While the preferred embodiments of this invention have been shown and described herein, it is obvious that many

10 structural details may be changed without departing from the spirit and scope of the appended claims.

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## CLAIMS:

1           1. A double walled container of seamless construction  
for beverages and the like comprising a pair of receptacles of  
generally frusto-conical configuration each having a bottom wall,  
and a side wall extending upwardly and outwardly and terminating  
5 in a rim portion, said receptacles being of predetermined dif-  
ferent size to permit telescopic association thereof with the  
rim portion of one receptacle overlying and engaging the rim of  
the other, each of said receptacles having a plurality of axially  
spaced exteriorly disposed peripheral projections in its side  
10 wall successively decreasing in size from the projection nearest  
the rim portion to the projection nearest the bottom wall of  
each receptacle, the projections of one receptacle overlapping  
and mating with the projections of the other receptacle to provide  
a series of insulating and reinforced gripping segments for the  
15 container.

1           2. A nestable double walled container of seamless  
construction for beverages and the like comprising a pair of  
receptacles of frusto-conical configuration each having a bottom  
wall, and a side wall extending upwardly and outwardly and ter-  
5 minating in a rim portion, said receptacles being of predetermined  
different size to permit telescopic association thereof with the  
rim portion of one receptacle overlying and engaging the rim of  
the other, each of said receptacles having a plurality of stepped  
portions in its side wall successively decreasing in size from  
10 the projection nearest the rim portion to the projection nearest  
the bottom wall of each receptacle, the stepped portions of one  
receptacle overlapping and mating with the stepped portions of  
the other receptacle to provide a series of insulating and re-  
inforced gripping segments for the container, and a stacking means  
15 formed in the inner receptacle of said container adjacent the  
bottom wall thereof for receiving the bottom wall of the outer  
receptacle on a similarly constructed container.

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1           3. A nestable double walled container of seamless  
construction for beverages and the like comprising a pair of  
receptacles of frusto-conical configuration each having a bottom  
wall, and a side wall extending upwardly and outwardly and ter-  
5 minating in a rim portion, said receptacles being of predetermined  
different size to permit telescopic association thereof with the  
rim portion of one receptacle overlying and engaging the rim of  
the other, each of said receptacles having a plurality of stepped  
portions in its side wall successively decreasing in size from  
10 the projection nearest the rim portion to the projection nearest  
the bottom wall of each receptacle, the stepped portions of one  
receptacle overlapping and mating with the stepped portions of  
the other receptacle to provide a series of insulating and re-  
inforced gripping segments for the container, an inwardly directed  
15 shoulder formed on the inner receptacle adjacent its bottom wall  
for accepting the bottom wall of the outer receptacle on a sim-  
ilarly constructed container to facilitate stacking and subsequent  
withdrawal of the containers.

1           4. The container as defined in claim 3 wherein the  
axial height of the inner receptacle is less than that of the  
outer receptacle whereby to axially space the bottom walls of the  
receptacles a predetermined distance from each other.

1           5. The container as defined in claim 4 wherein a por-  
tion of the receptacle side walls adjacent the bottom walls there-  
of are also spaced from one another.

1           6. The container as defined in claim 4 wherein the  
outer receptacle adjacent the bottom wall thereof is provided  
with an inwardly directed abutment underlying and supporting the  
inwardly directed shoulder of the inner receptacle for axially  
5 spacing the bottom walls of the receptacles a predetermined distance from one another, the portions of the container side walls  
beneath the radially inwardly directed shoulder and abutment of  
the inner and outer receptacle being spaced from one another  
whereby to insulate the container in the vicinity of and adjacent  
10 to the bottom walls of the receptacles.

1           7. The container as defined in claim 4 wherein the  
bottom walls of each receptacle are axially concave upwards whereby to form a false bottom container, a portion of the bottom wall  
in said outer receptacle underlying and engaging only a portion  
5 of the inner receptacle bottom wall to space the major portions  
of the receptacle bottom walls from each other, and side wall  
portions of the receptacles adjacent the bottom walls thereof  
also being spaced from one another.

1           8. A nestable double walled container of seamless  
construction comprising a first frusto-conical receptacle having  
a bottom wall and a tapered side wall extending upwardly to a  
reversely curving rim portion thereof, a second frusto-conical  
5   receptacle of predetermined different size and axial height dis-  
posed within said first receptacle and having a base end wall  
connected to an upwardly and outwardly extending side wall and  
also terminating in a reversely curving rim portion adapted to  
overlie and engage the rim portion of said first receptacle, a  
10   plurality of axially spaced exteriorly disposed peripheral pro-  
jections in each receptacle side wall successively increasing  
in size in relation to the proportional increase of the first and  
second receptacle side walls, adjacent projections of each recep-  
tacle being joined to one another by generally radially directed  
15   connecting portions, inner peripheral surface portions of the  
first receptacle projections engaging outer peripheral surface  
portions of the second receptacle projections in the vicinity of  
the connecting portions on each receptacle to form pockets de-  
fined by generally opposing projections and connecting portions  
20   of positioned receptacles to engage one another and trap air  
therebetween, said receptacles for trapping air therein so as to  
provide a series of insulating and reinforced gripping segments  
for the container, a portion of the second receptacle adjacent  
its base end wall having a smaller dimension than that of the  
25   first receptacle in the vicinity of its bottom wall whereby sim-  
ilarly constructed containers are capable of being nested one  
within the other with the first receptacle bottom wall of one  
container supported by the second receptacle base end wall of an  
adjacently positioned container.

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1           9. A nestable double walled container of seamless  
construction comprising interfitting inner and outer receptacles  
of frusto-conical configuration each having a bottom wall and a  
tapered side wall projecting upwardly and terminating in a re-  
5 versely curving rim portion, said rim portions being interlocked  
one within the other to secure the receptacles together, a  
gripping band segment intermediate the bottom wall and rim of  
each container and including a plurality of axially spaced ex-  
teriorly disposed peripheral projections in each receptacle side  
10 wall successively increasing in size in relation to the propor-  
tional enlargement of the receptacle side walls, adjacent pro-  
jections of each receptacle joined to one another by generally  
radially directed connecting portions, each connecting portion  
on the inner receptacle being axially spaced downwardly from a  
15 connecting portion on the outer receptacle by an amount substan-  
tially equal to the wall thickness of said receptacles, the pro-  
jection above each connecting portion on the inner receptacle  
engaging the projection below each connecting portion on the  
outer receptacle to form pockets defined by generally opposing  
20 projections and connecting portions of said receptacles for  
trapping air therein, and a radially inwardly directed shoulder  
formed in the inner receptacle side wall adjacent its bottom wall  
for receiving the bottom wall of an outer receptacle on a like  
container to facilitate telescopic stacking and subsequent with-  
25 drawal of the containers.



1           10. A nestable double walled container comprising  
interfitting inner and outer receptacles each having a bottom  
wall and a side wall extending upwardly and outwardly and ter-  
minating in a reversely curving rim portion, the rim portion of  
5 the inner receptacle adapted to overlie and embraceably engage  
the rim portion of the outer receptacle to provide a joint rim  
portion for securing the receptacles to one another, a gripping  
band segment below the rim portion of each receptacle and including  
a plurality of L-shaped segments arranged in proportionally in-  
10 creasing increments from the bottom wall to the rim portion of  
each receptacle, the L-shaped segments of the inner receptacle  
positioned to overlap and mate with the L-shaped segments on the  
outer receptacle to provide a plurality of air pockets and form  
a reinforced insulated area for the container, an inwardly  
15 directed shoulder formed on the inner receptacle adjacent the  
bottom wall thereof for accepting the bottom wall of an outer  
receptacle on a similarly constructed container to facilitate  
stacking of a plurality of like containers.

1            11. In combination, a first frusto-conical receptacle  
having a bottom wall and a tapered side wall extending upwardly  
to a reversely curving rim portion thereof, a plurality of  
axially spaced exteriorly disposed peripheral projections in the  
5 receptacle side wall successively increasing in size in relation  
to the proportional increase of the side wall taper for receiving  
the projections of a similarly configured receptacle to limit  
telescopic association therebetween, a second frusto-conical  
receptacle also having a bottom wall and a tapered side wall with  
10 a plurality of axially spaced exteriorly disposed peripheral pro-  
jections formed therein also cooperating with the projections of  
a like receptacle to limit the extent of telescopic association  
of said second receptacles, said first and second receptacles  
being of predetermined different size for telescopic assembly one  
15 within the other to form a double walled container, the projec-  
tions of the first receptacle overlapping and mating with the  
projections of the second receptacle to provide a series of in-  
sulating and reinforced gripping segments for the container, and  
stacking means formed in the inner receptacle of said container  
20 adjacent the bottom wall thereof for receiving the bottom wall of  
the outer receptacle on a similarly constructed container.

12. In combination, a first frusto-conical receptacle having a bottom wall and a tapered side wall extending upwardly to a reversely curving rim portion thereof, a plurality of stepped portions in the receptacle side wall successively increasing in size in relation to the proportional increase of the side wall taper for receiving the stepped portions of a similarly configured receptacle to limit telescopic association therebetween, a second frusto-conical receptacle also having a bottom wall and a tapered side wall with a plurality of stepped portions formed therein and also cooperating with the stepped portions of a like receptacle to limit the extent of telescopic association of said second receptacles, said first and second receptacles being of predetermined different size for telescopic assembly one within the other to form a double walled container, the stepped portions of the first receptacle overlapping and mating with the stepped portions of the second receptacle to provide a series of insulating and reinforced gripping segments for the container, and stacking means formed in the inner receptacle of said container adjacent the bottom wall thereof for receiving the bottom wall of the outer receptacle on a similarly constructed container.

13. A nestable double walled container of seamless thermoplastic construction for beverages and the like comprising inner and outer wall portions of frusto-conical configuration each having a bottom and a side extending upwardly and outwardly therefrom and terminating in a rim portion, said wall portions being of predetermined different size for telescopic association with one another and being joined to each other at the rim portions thereof in a manner to space the bottom of the inner wall portion a predetermined distance from the bottom of the outer wall portion, said inner wall portion being provided with stacking means thereon including an inner shoulder means in the

vicinity of the bottom thereof and of smaller minimum diameter than the maximum diameter of external shoulder means provided on said outer wall portion, the inner shoulder means provided  
15 on the inner wall of the double walled container adapted to receive the external shoulder means on the outer wall of a superposed double walled container of like configuration to limit the extent of telescopic association of a plurality of double walled containers, the side of each inner wall portion  
20 in the vicinity of its inner shoulder means capable of being elongated to extend the bottom and side wall portions of the inner wall into the space between the bottoms of associated inner and outer wall portions when engaged by the external shoulder means on the outer wall of a superposed double wall container  
25 to afford axial resiliency to a stack of telescoped double walled containers and thereby prevent jamming.

14. A nestable double walled container of seamless thermo-plastic construction for beverages and the like comprising inner and outer wall portions of frusto-conical configuration each having a bottom and a side extending upwardly and outwardly  
5 therefrom and terminating in a rim portion, said wall portions being of predetermined different size for telescopic association with one another and being joined to each other at the rim portions thereof in a manner to space the bottom of the inner wall portion a predetermined distance from the bottom of the  
10 outer wall portion, said inner wall portion being provided with stacking means thereon including an inner shoulder means in the vicinity of the bottom thereof and of smaller minimum diameter than the maximum diameter in the vicinity of the juncture between the bottom and side of the outer wall portion forming  
15 outer shoulder means, the apical angle defining the frusto-conical

outer wall providing at the juncture of the bottom and side thereof a maximum diametrical measurement smaller than the minimum diametrical measurement at the rim portion of the container inner wall portion and for the axial height of the

20 inner wall portion immediately above the inner shoulder means, said inner shoulder means being positioned with respect to the apical angle defining the inner wall portion to provide a smaller minimum diameter than the maximum diameter of the outer wall in the vicinity of the juncture between the bottom

25 and side thereof to present a shelf for coaction with the external shoulder means on the outer wall of a superposed double walled container of like configuration to limit the extent of telescopic association of a plurality of double walled containers, the side of each inner wall portion in the vicinity of its inner

30 shoulder means capable of being elongated to extend the bottom and side wall portions of the inner wall into the space between the bottoms of associated inner and outer wall portions when engaged by the external shoulder means on the outer wall of a superposed double walled container to afford axial resiliency

35 to a stack of telescoped double wall containers and thereby prevent jamming.

FIG.2

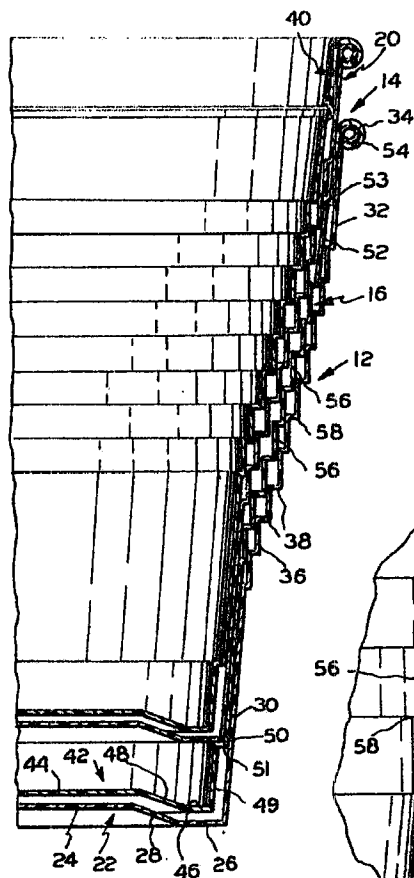


FIG.1

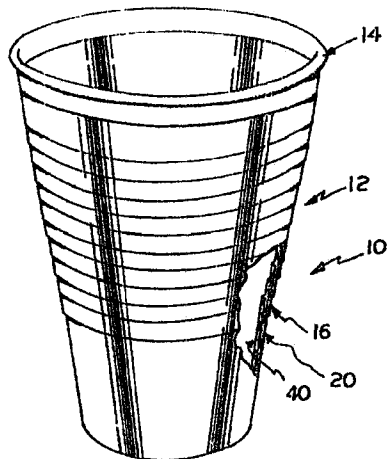


FIG.3

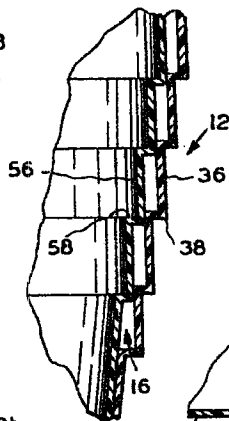


FIG.4

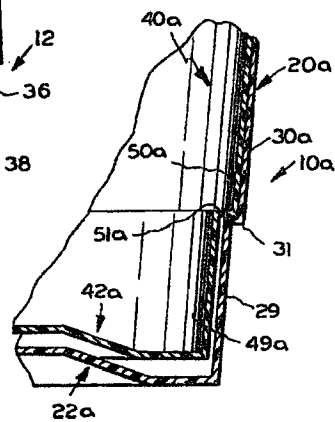
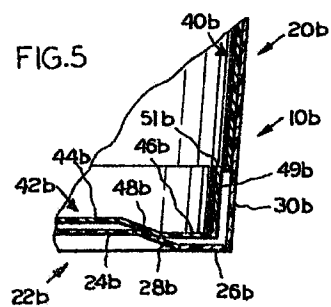


FIG.5



INVENTOR

BRYANT EDWARDS

*Meredith & Finlayson*  
ATTORNEYS

FIG.6

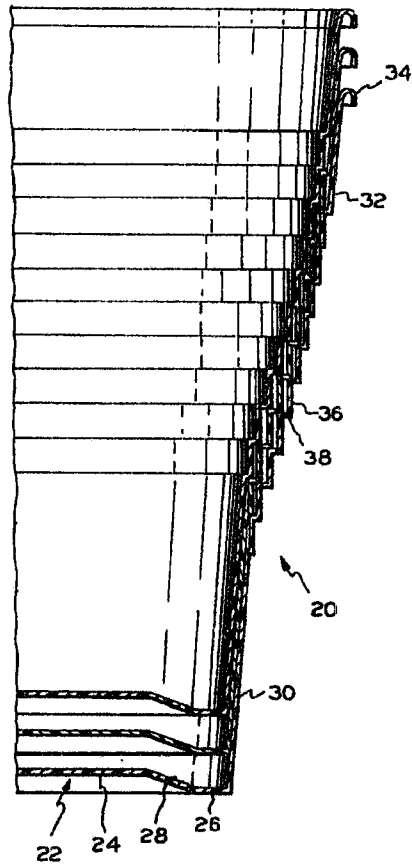
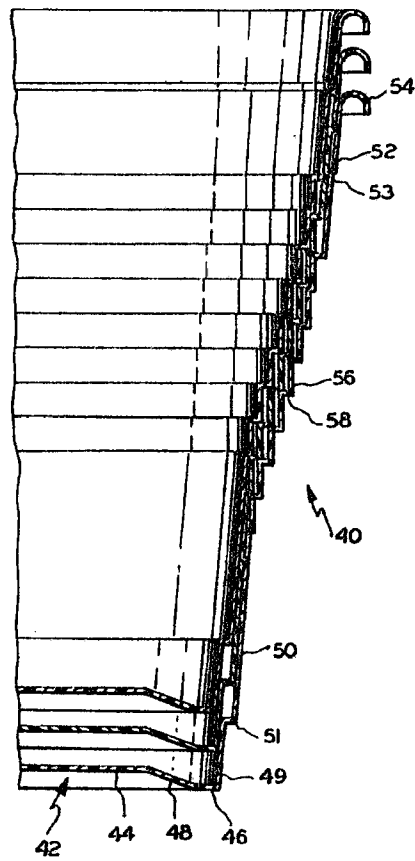


FIG.7



INVENTOR

BRYANT EDWARDS

*Meredith & Finlayson*

ATTORNEYS